33.475 River Overlay Zones

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General

33.475.010 Purpose
The River Overlay zones generally promote the protection, conservation, restoration, enhancement and maintenance of the economic, natural, scenic, and recreational qualities of lands along the central reach of the Willamette River. This purpose is achieved by applying regulations that control development of land, change of use and intensification of use. The regulations reflect the desired character of the central reach of the Willamette River — a character that includes:

- A healthy river and watershed;
- A thriving riverfront with regional gathering spaces, active and passive recreational uses, maritime and commercial activities, and a welcoming mixed-use community; and
• Access to, along and in the river.
The River Overlay Zones also implement the City’s responsibilities under ORS 390.310 to 390.368.

33.475.020 River Overlay Zones

A. Purpose. The River Overlay zones implement the land use pattern identified in the Central City 2035 Plan (2018). There are two River Overlay zones each with their own purpose:

1. River General. The River General overlay zone allows for uses and development that are consistent with the base zoning and allows for public use and enjoyment of the riverfront.

2. River Environmental. The River Environmental overlay zone protects, conserves and enhances important natural resource functions and values while allowing environmentally sensitive development. The purpose of the zone is to limit the impacts from development and vegetation maintenance on the natural resources and functional values contained within the overlay zone. The environmental regulations encourage flexibility and innovation in site planning and provide for development that is carefully designed to be sensitive to the site’s protected resources. Mitigation is required for unavoidable impacts and is intended to have no net loss of natural resource features or functions over time. The River Environmental overlay zone applies to specific natural resource areas identified in a detailed study titled Willamette River Central Reach Natural Resources Protection Plan (2017). This overlay zone always applies in combination with one of the other River Overlay zones.

B. Map symbols. The River Overlay Zones are shown on the official zoning maps with the following symbols:

<table>
<thead>
<tr>
<th>Overlay Zone</th>
<th>Map Symbol</th>
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<tbody>
<tr>
<td>River General</td>
<td>g*</td>
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<tr>
<td>River Environmental</td>
<td>e</td>
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33.475.030 Where These Regulations Apply

The regulations of this chapter apply to the land and the water within the Central Reach portion of the Willamette Greenway Plan boundary shown on Map 475-1 and designated on the Official Zoning Maps with the River General (g*) and the River Environmental (e) overlay zones. The regulations of this chapter do not apply to the River General (g) overlay zone located within the Greenway Overlay zone boundary shown on Map 440-1. See Chapter 33.440, Greenway Overlay zones for regulations that apply to the River General (g) overlay zone within the Greenway Overlay zone boundary.

33.475.040 When These Regulations Apply

A. River General overlay zone. The regulations in Sections 33.475.200 through 33.475.260 apply to any changes to land or development in the River General overlay zone including rights-of-way.

B. River Environmental overlay zone. The regulations in 33.475.400 through 33.475.450 apply in the River Environmental overlay zone as follows:

1. Unless exempted by Paragraph B.2., the regulations apply to:
Title 33, Planning and Zoning
Chapter 33.475
River Overlay Zones

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a. Development;
b. Planting, removing, cutting, mowing, clearing, burning or poisoning trees or vegetation;
c. Changing topography, grading, excavation or filling; and
d. Resource enhancement.

2. Exemptions. The following items are exempt from the River Environmental overlay zone regulations:

a. Change of ownership;
b. Temporary emergency procedures necessary for the protection of life, health, safety, or property;
c. Changes to the interior of a building where there are no exterior alterations;
d. Operation, maintenance, alterations, repair, and replacement of existing structures, exterior improvements, irrigation system, stormwater facilities, non-potable water systems, roads, utilities, public trails and paths, public viewpoints, public interpretive facilities, and erosion control measures. Alterations, repair and replacement is not exempt whenever total square footage, building coverage or utility size is increased;
e. Dredging, channel maintenance, and the removal of materials from the river as follows:
   (1) Dredging, channel maintenance, and the removal of material within the federal navigation channel.
   (2) Dredging, channel maintenance, and the removal of materials outside the federal navigation channel as follows:
      • Dredging and the removal of materials in waters that are 35 feet deep or deeper, measured from the ordinary high water mark; or
      • Channel, slip and berth maintenance that has been approved by the U.S. Army Corps of Engineers.
   (3) The placement of dredged materials within the River Environmental overlay zone is not exempt.
f. Removal of structures and debris located landward of the ordinary high water mark of the Willamette River, streams or drainageways, or more than 30 feet from the edge of a wetland;
g. Installation of temporary erosion control measures;
h. Alterations to buildings that do not change the building footprint and do not require adjustments to site-related development standards;
i. Continued maintenance of existing gardens, lawns, and other planted areas, including the installation of new plants except those listed on the *Nuisance Plants List*;

j. Changes to existing disturbance areas to accommodate outdoor activities such as events, play areas and gardens as long as plantings do not include plants on the *Nuisance Plants List* and no trees 1.5 or more inches in diameter are removed;

k. Development located on an existing dock, wharf, or pier. A dock, wharf, or pier includes the gangway that provides access to the dock, wharf or pier;

l. Removal or pruning of trees that are not more than 1.5 inches in diameter and other vegetation that is not listed as native on the *Portland Plant List*. The removal or pruning must be done with handheld equipment. Temporary disturbance area located within and riverward of the river setback must be replanted to meet the relevant subarea standards of Table 475-1, and temporary disturbance area located outside and landward of the river setback must be replanted to meet the subarea 3 standard of Table 475-1.

m. Planting of native vegetation listed on the *Portland Plant List* when planted with handheld equipment or equipment with a wheel surface-to-ground pressure of no more than 7.5 psi;

n. Public street and sidewalk improvements meeting all of the following:
   (1) Improvements must be within an existing public right-of-way used by truck or automobile traffic; and
   (2) Streets and sidewalks must not exceed the minimum width standards of the Bureau of Transportation Engineering.

o. Groundwater monitoring wells constructed to the standards of the Oregon Water Resources Department and water quality monitoring stations when access is by foot only;

p. Installation of security cameras provided that no more than 100 square feet of ground surface is disturbed landward of top of bank, no ground is disturbed riverward of the top of bank, no native trees are removed, and disturbed area is planted with the following (top of bank is shown on Map 475-2):
   (1) Three shrubs per 100 square feet; and
   (2) Grass and forb seed mix at a ratio of 30 pounds per acre restored to pre-construction conditions;

q. Utility service using a single utility pole or where no more than 100 square feet of ground surface is disturbed landward of the top of bank, no ground is disturbed riverward of top of bank, and disturbance area is planted with the following (top of bank is shown on Map 475-2):
   (1) Three shrubs per 100 square feet; and
(2) Grass and forb seed mix at a ratio of 30 pounds per acre;

r. Utilities installed above or below developed portions of the public right-of-way, and stormwater management facilities within the public right-of-way provided that no ground is disturbed riverward of top of bank (top of bank is shown on Map 475-2);

s. Installation of fencing in the following situations:
   (1) Fencing on an existing paved surface;
   (2) Fencing around stormwater facilities that meet the Stormwater Management Manual; or
   (3) Temporary fencing to protect resource enhancement project planting areas, prevent access to hazardous material spill areas or contaminated sites, or to close off or control the use of illegal trails. The fence must be removed within five years;

t. Installation of signage provided no trees over 1.5 inches in diameter are removed; and

u. Removal of trash, provided that native vegetation is not removed or damaged. This includes removal of trash from the river bed and from the water. Removal of trash does not include the removal or remediation of hazardous substances.

C. Removal or Remediation of Hazardous Substances. The regulations in 33.475.500 apply to actions to remove or remediate hazardous substances that have been approved or selected under Oregon or federal cleanup law. The regulations in 33.475.500 only apply to the portions of the site where the removal or remediation actions will occur; development or exterior alterations on other portions of the site outside of the removal or remediation areas must meet all other applicable regulations and procedural requirements of this chapter. Remedial actions within public rights of way and actions not approved or selected by a state or federal cleanup authority must meet all other applicable regulations and procedural requirements of this chapter and may not use 33.475.500. The applicant conducting the removal or remediation action may choose to meet the regulations of 33.475.500 or all other applicable regulations of this chapter.

33.475.050 Supplemental Permit Application Requirements
The following information is required when a permit for development or exterior alteration in the River Overlay Zones is reviewed for compliance with this chapter.

A. Supplemental site plan. The following supplemental site plans are required when a permit for development or exterior alteration within the River Overlay zones is reviewed for compliance with this chapter. Five copies of each required site plan must be submitted. The site plans must show the entire site, must be drawn accurately to a scale that is between 1 inch to 50 feet and 1 inch to 10 feet, and must show all property lines with dimensions, a north arrow and a date. Additional site plans that show only a portion of the site may be submitted. All copies of site plans must be suitable for reproduction on paper no smaller than 8.5 x 11 inches and no larger than 36 x 48 inches; and
1. An existing conditions site plan including:
   a. Location of all base zone and overlay zone lines on the site;
   b. Location of the top of bank, river setback line and the landscaping sub areas;
   c. Outline of any existing development, including existing river bank stabilization treatments, stormwater treatment facilities, environmental enhancement or mitigation areas, and trails and paths;
   d. Extent of the 100-year floodplain;
   e. The location, size including trunk and canopy crown diameter, and species of trees that are 1.5 inches or greater in diameter that are within the area where ground disturbance or vegetation removal will occur, or that are within 50 feet of the area where ground disturbance and vegetation removal will occur;
   f. Vegetation other than trees within the area where ground disturbance or vegetation removal will occur, and vegetation other than trees within 50 feet of the area where ground disturbance and vegetation removal will occur. Vegetation may be shown as the area of cover with a list and percent cover of plant species present; and
   g. Topography shown by contour lines at 2 foot vertical contours in areas of slopes less than 10 percent and at 5 foot vertical contours in areas of slopes 10 percent or greater.

2. A proposed development or exterior alterations plan including:
   a. Outline of the proposed project area, including:
      (1) limits of the temporary and permanent disturbance areas, equipment staging and maneuvering areas, ingress and egress areas, and areas to be left undisturbed;
      (2) areas of ground disturbance, stockpiling or grading;
      (3) outfalls and river bank stabilization treatments;
      (4) trails and paths;
      (5) areas of vegetation to be left undisturbed including the root protection zone for trees;
      (6) environmental enhancement or mitigation areas,
   b. Location and size (cubic yards) of fill to be placed within the 100-year floodplain;
   c. Location and description of all proposed erosion control measures;
   d. Location and description of all proposed stormwater management facilities;
   e. Location of proposed fencing and identification of where the fencing is temporary and where it is permanent;
f. Location of exterior lighting; and

g. A landscaping plan indicating the size, species, and location of all vegetation to be planted.

B. Photos of the site. Submission of photographs of the site are not required but are encouraged to supplement the existing conditions site plan.

River General Overlay Zone

33.475.200 Use Regulation

There are no special use restrictions in the River General overlay zone.

33.475.210 River Setback

A. Purpose. The purpose of the river setback is to keep structures separated from the river in areas where the land is not being reserved for river-dependent and river-related uses. Separating structures from the river facilitates protection, maintenance, restoration, preservation and enhancement of the natural, scenic, historic and recreational qualities of the Willamette River in the Central Reach by reserving space for the conservation and enhancement of natural vegetation and the opportunity for public access. In addition, OAR 660-015-0005 requires the establishment of a setback line.

B. General. The requirements of this section focus on whether the development is river-dependent or river-related. The focus is not on the primary use of the land. For example, in the River General overlay zone, a marine transportation terminal is a river-dependent primary use, but not all development associated with the terminal is river-dependent. The dock is river-dependent, but the parking lot and offices are not.

C. The river setback. The river setback extends from the top of the bank to a point 50 feet landward of the top of bank. See Figure 475-1. Top of bank is shown on Map 475-2. Where top of bank is not shown on Map 475-2, top of bank is determined as described in 33.910.030, Definitions, and 33.930.150, Measuring Top of Bank. Where alteration to the river bank carried out to meet 33.475.440.H results in the top of bank shifting landward, the applicant may choose to measure the setback from the original top of bank. When this occurs, a survey of the original top of bank line and new top of bank line must be submitted for verification that the top of bank has been measured according to the standard in 33.930.150, Measuring Top of Bank, and then recorded with the County recorder. In all cases the river setback line must be at least 5 feet landward of the new top of bank line.
D. River setback standards.

1. Development landward of the river setback. Development, exterior alterations, excavations, and fills landward of the river setback are not required to be river-dependent or river-related.

2. Development within or riverward of the river setback. Except as follows, development, exterior alterations, excavations, and fills within or riverward of the river setback must be river-dependent or river-related:
   
   a. Development, exterior alterations, excavations, and fills that are not river-dependent or river-related are allowed to encroach into the river setback as described in Subsection E. Development, exterior alterations, excavations, and fills located riverward of the setback must be river-dependent or river-related;

   b. Development within a Historic or Conservation landmark located within or riverward of the river setback is not required to be river-dependent or river-related, and the floor area of the landmark and the exterior improvement area associated with the landmark can be increased up to a total of 10 percent within the river setback when the alteration does not bring the building or exterior improvement area closer to the river.

   c. All other development, exterior alterations, excavations, and fills that are not river-dependent or river-related are allowed if approved through a Greenway Goal Exception.

E. Encroachment into the setback. Development that is not river-dependent or river-related may encroach up to 5 feet into the river setback provided that the setback is increased by an area equivalent in size to the encroachment area. The area that is increased must be located adjacent to the original setback. See Figure 475-2.
33.475.215 Marine Passenger Docks and Terminals

A. **Purpose.** River-related development provides goods or services that are directly associated with river-dependent land or waterway use. River-related development is typically allowed within the river setback, however certain river-related development associated with a marine passenger dock, while river-related in nature, does not need to be fully located within the river setback. In order to ensure that these particular types of river-related development do not overwhelm or dominate within the river setback, the total amount of footprint allowed within the setback is limited. The limitation will ensure that the river setback can accommodate other river-related or river-dependent development and provide opportunities for recreation, public access, and the conservation and enhancement of natural, scenic and historic resources.

B. **Standard.** Passenger waiting and queuing areas, security checkpoints, and machine shops associated with marine passenger docks for subregional travel or marine passenger terminals for regional travel are limited to a 5,000 square foot footprint within or riverward of the river setback.

33.475.220 Landscaping
The following regulations apply in the River General overlay zone. Adjustments are prohibited.
A. **Purpose.** The landscaping regulations are intended to increase vegetation along the Willamette River. Adding a diversity of vegetation within the river setback will improve multiple ecosystem functions, increase fish and wildlife habitat, provide shade, cool the air, and create visual diversity. The regulations are also intended to accommodate safe and enjoyable public access to and along the Willamette River.

B. **Required landscaping.**

1. Governor Tom McCall Waterfront Park and the Eastbank Crescent beach, shown on Map 475-3, are exempt from this Section.

2. Required landscaping for all other areas. For areas not exempt from this section, land within and riverward of the river setback that is not covered with a building or other structure or developed with a trail or viewing area must be landscaped to meet Table 475-1, Landscaping Planting Density. Subareas are shown on Figure 475-3 and described below. There are three planting densities allowed within each subarea. The applicant may choose which planting density standard to apply within each subarea, and more than one planting density may occur on a site. For example, the applicant may choose planting density 1 for all the subareas, or planting density 2 for subarea 1, planting density 3 for subarea 2, and planting density 1 for subarea 3.

   a. **Subareas:**
      
      (1) Subarea 1. Subarea 1 extends from the ordinary high water mark to the top of bank of the Willamette River.
      
      (2) Subarea 2. Subarea 2 extends from the top of bank to a point 25 feet landward of the top of bank of the Willamette River.
      
      (3) Subarea 3. Subarea 3 extends from a point 25 feet landward of the top of bank to a point 50 feet landward of the top of bank of the Willamette River (top of bank is shown on Map 475-2). When the setback area is increased in conformance with 33.475.210.E., Encroachment into the setback, Subarea 3 extends into the increased setback area.
b. Vegetation planted to meet the resource enhancement standards of 33.475.440. H or the mitigation standards of 33.475.440.L may be counted towards meeting the landscaping standard.

c. Exceptions.

(1) Landscaping is not required within portions of sites where contamination removal or remediation actions meet the standards of 33.475.500;

(2) Trees and shrubs are not required within utility easements but the area must be seeded with a grass and forb seed mix at a ratio of 30 pounds per acre;

(3) Trees and shrubs are not required within a scenic (s) overlay zones but the area must be seeded with a grass and forb seed mix at a ratio of 30 pounds per acre. Trees may not be planted within a scenic (s) overlay zones; or

(4) If the area to be landscaped within subarea 1 has an average slope of 30 percent or steeper (30 percent slope represents a rise over run ratio of 1:3.3) and the area with an average slope of 30 percent or steeper is armored with rip rap, or the area within subarea 1 has rip rap that is at least four feet deep, then the required subarea 1 landscaping may be planted on an area of the site that is landward of the river setback but within the River overlay zones, or the applicant may pay a revegetation fee-in-lieu as described below. If the landscaping will be provided on-site, the total area outside of subarea 1 to be landscaped must be equivalent in size to the area that would have been required to be landscaped in subarea 1. More than one landscaped area may be provided to achieve the total, but other required landscaping may not count toward the total:

- Revegetation fee-in-lieu use and administration. The revegetation fee is collected by Bureau of Development Services and is administered by the Bureau of Environmental Services (BES). The fees collected are used for revegetation projects on public or private property within the same
reach of the Willamette River as the site. The reaches are shown on Map 475-1.

- Calculation of required fee-in-lieu contributions. Applicants must contribute the cost to purchase and plant trees, shrubs and groundcover plants as set out in the next bullet. The cost to purchase and plant trees and plants will be adjusted annually as determined by the Director of BES based on current market prices for materials, labor and maintenance.

- Required fee-in-lieu contribution. The applicant must contribute the cost to purchase, plant and maintain one tree, three shrubs and four ground cover plants per 100 square feet of required planting area before a building permit will be issued. The fee calculation will be rounded up to the next multiple of $10. The minimum area to be used in this calculation is 100 square feet. Calculations that are not a multiple of 100 will be rounded up to the next multiple of 100.
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<tr>
<td>Landscaping Subarea 1</td>
<td>One tree, three shrubs, and four other ground cover plants must be planted for every 100 square feet. Trees may be clustered. All plants must be native.</td>
<td>One tree, six shrubs, and eight other ground cover plants must be planted for every 200 square feet. Trees may be clustered. All plants must be native.</td>
<td>One tree, nine shrubs, and 12 other ground cover plants must be planted for every 300 square feet. Trees may be clustered. All plants must be native.</td>
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<tr>
<td>Landscaping Subarea 2</td>
<td>One tree and one of the following two options for every 100 square feet. Trees must be separated from other trees by at least 20 feet on center. Shrub species must not exceed 3 feet in height at maturity.</td>
<td>Option 1: Six shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td>Option 1: Nine shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
</tr>
<tr>
<td></td>
<td>Option 1: Three shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td>Option 2: Six shrubs and eight other groundcover plants.</td>
<td>Option 2: Nine shrubs and 12 other groundcover plants.</td>
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<td>Option 2: Three shrubs and four other groundcover plants.</td>
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<tr>
<td>Landscaping Subarea 3</td>
<td>One tree for every 100 square feet and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre. Trees must be separated from other trees by at least 20 feet on center. Shrubs or other ground cover are not required, however if they are included they must meet the standards for Landscaping Subarea 2.</td>
<td>One tree for every 200 square feet and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre. Trees must be separated from other trees by at least 20 feet on center. Shrubs or other ground cover are not required, however if they are included they must meet the standards for Landscaping Subarea 2.</td>
<td>One tree for every 300 square feet and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre. Trees must be separated from other trees by at least 20 feet on center. Shrubs or other ground cover are not required, however if they are included they must meet the standards for Landscaping Subarea 2.</td>
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[1] Tree size is based on Title 11.60.020.C Canopy Size
C. **Landscaped area site preparation.** Before installing the required landscaping, the following standards must be met:

1. All prohibited and nuisance plants listed on the *Portland Plant List* must be removed within and riverward of the river setback.

2. All structures and debris located within and riverward of the river setback must be removed except for river-dependent and river-related structures, non-conforming development, erosion control measures, flood control facilities, large wood, and bioengineered structures. Examples of bioengineered structures include bundles of plant materials or soil cells wrapped in biodegradable fabrics.

3. If the area to be planted is not currently vegetated, the soil must be amended with 12 inches of growing medium. If the planting area is in subarea 1 has an average slope of 30 percent or steeper (30 percent slope represents a rise over run ratio of 1:3.3), and is armored with rip rap, the growing medium may be placed in planting wells. The composition of the growing medium must meet one of the following:
   a. For all planting areas located outside of the flood hazard area, the growing medium must be a blend of loamy soil, sand, and compost that is 30 to 40 percent plant material compost (by volume); or
   b. For all planting areas located within the flood hazard area, the growing medium must be a blend of loamy soil, sand, small gravels and compost. A landscape architect or civil engineer must certify that the growing medium is adequate to support the establishment and growth of vegetation, and is heavier than water.

4. Placement of the growing medium is not allowed when the ground is frozen or saturated; and

5. Temporary erosion control measures are required until permanent stabilization measures are functional. Temporary erosion control measures must be biodegradable or removed after permanent stabilization measures are functional or within 3 years, whichever is sooner.

D. **Plant requirements.** Trees must be a minimum ½-inch caliper, bareroot, or live stakes, unless they are oak or madrone, which may be one gallon size. Shrubs must be a minimum of one gallon size or bareroot. All other species must be a minimum of four-inch pots or equivalent. For planting areas over 600 square feet, at least two different tree species and sizes, three different shrub species, and four different groundcover species must be used.

### 33.475.230 Exterior Lighting

**A. Purpose.** The standards for exterior lighting are intended to:

- Avoid or minimize light glare and light spill from artificial lighting and associated negative impacts on fish and wildlife and their habitats;
- Reduce light pollution and glare impacts on residential developments;
- Maintain public safety and security along public trails, in parks, along public streets, and on piers and gangways; and
• Provide flexibility for river-dependent operations associated with docks.

B. **General standards.** The following standards apply to all exterior lights located within the River General overlay zone.

1. Exterior lights must not project light upward or to the side of the fixture; and
2. The top and sides of all exterior light fixtures must be shielded with 100 percent opaque materials.

C. **Additional standards for areas near the Willamette River.** The following standards apply to all permanent exterior lights located within and riverward of the river setback, and all permanent exterior lights located within 25 feet landward of the river setback. Exterior lights within Governor Tom McCall Waterfront Park, and exterior lights within public streets are exempt from this Subsection:

1. Exterior lights are allowed only if the lights are for the following uses or development:
   a. Park and Open Area uses;
   b. The major public trail;
   c. A public viewing area; or
   d. River-dependent or river-related development.

2. Structures that support exterior light fixtures must be set back at least 5 feet from the top of bank of the Willamette River unless the structure that supports the exterior light fixture is located on a dock, pier and gangway, and must be setback at least 30 feet from any other stream, drainageway, wetland or water body (top of bank is shown on Map 475-2);

3. Structures that support exterior light fixtures must be spaced at least 25 feet apart;

4. Lamps must fall below 3000K or within an S/P ratio range of 1 to 1.2; and

5. Exterior lights must not project directly into the Willamette River.

### 33.475.240 Public Viewpoints

a. **Purpose.** Public viewpoints provide stopping places along major public trails where the public can view and enjoy the natural, scenic, historic, cultural, recreational and economic qualities of the Willamette River.

b. **Viewpoint Requirement.** All sites with a designated viewpoint(s) in the *Central City Scenic Resources Protection Plan* are required to provide a public viewing area(s). The viewpoint design is addressed through the Central City Fundamental Design Guidelines. In addition, the viewpoint must comply with the Use of Trail, Hours of Use, Trespass and Trail Maintenance and Liability sections of Chapter 33.272, Major Public Trails. The Trails Maintenance and Liability section is applicable when the viewpoint is located along the physically contiguous trail segment.
33.475.250 Nonconforming Uses and Development
Nonconforming uses and development in the River General overlay zone are subject to the regulations and reviews of Chapter 33.258, Nonconforming Situations. The additional regulations stated below apply to development within or riverward of the river setback that is not river-dependent or river-related:

A. The development may continue;
B. The development may be changed to an allowed river-dependent or river-related development by right;
C. The development may be changed to another nonconforming development if within the existing building. If outdoors, it may not be changed to another nonconforming development; and
D. The development may be expanded, but not within or riverward of the river setback. Expansion includes adding additional floor area.

33.475.260 Property Line Adjustments
Property line adjustments may not result in a property that is in more than one river overlay zone, unless the second overlay is the River Environmental overlay zone. Adjustments are prohibited.

River Environmental Overlay Zone

33.475.400 Use Regulation
There are no special use restrictions associated specifically with the River Environmental overlay zone. However, any use restrictions that apply as a result of an accompanying River overlay zone also apply within the River Environmental overlay zone.

33.475.410 Environmental Report
The application of the River Environmental overlay zone is based on a detailed study titled Willamette River Central Reach Natural Resources Protection Plan (2017). The report identifies the type, location, extent and relative condition of natural resource features and describes the functional values they provide within the study area. Functional values are the benefits provided by resources. The values for each resource site are described in the inventory section of the report.

33.475.420 Review Procedures
Development and exterior alterations will be reviewed through one of the following tracks:

A. Standards. Several specific types of development and exterior alterations are allowed within the River Environmental overlay zone if the proposal meets certain standards. The standards are intended to encourage sensitive development while providing clear limitations on disturbance, including tree removal, and minimizing impacts on resources and functional values. Adjustments to the standards are prohibited. Modification of the standards may be approved through River Review. When a proposal can meet the standards, the applicant may choose to meet the objective standards of this section or go through the discretionary River Review process. When there are no applicable standards, the proposal must be approved through River Review. Compliance with the standards is
determined as part of the building permit or development permit application process. The standards are listed in 33.475.440.

B. Review. River Review is required when the proposed development or exterior alteration is subject to the River Environmental overlay zone regulations and the development or exterior alteration either does not meet the River Environmental overlay zone development standards or there are no River Environmental overlay zone development standards that apply to the proposal. The process and approval criteria for River Review can be found in Chapter 33.865, River Review.

33.475.430 Prohibitions
The following are prohibited within the River Environmental overlay zone:

A. The packaging or storage of hazardous substances except as follows:
   1. Use of consumer quantities of hazardous substances is allowed. Consumer quantities of hazardous substances are packaged and distributed in a form intended or suitable for sale through retail sale outlets for consumption by individuals for purposes of personal use; and
   2. Marine vessel fueling stations are allowed.

B. The planting or propagation of any plant listed on the Nuisance Plant List; and

C. Dumping of trash or yard debris.

33.475.440 Development Standards
Unless exempted by 33.475.040.B.2., the standards in this Section apply to development and exterior alterations in the River Environmental overlay zone. All of the applicable standards must be met. Modification of any of these standards requires approval through River Review.

A. Standards for rail rights of way. The following standards apply to rail rights-of-way:
   1. The disturbance area associated with the development of a rail right-of-way must occur within a corridor that is not more than 20 feet wide. No disturbance is allowed outside of the 20-foot-wide corridor;
   2. Disturbance associated with the rail corridor or development of the rail corridor must not occur riverward of the top of bank of the Willamette River, within the river channel, or within 30 feet of the top of bank of any other stream, wetland, or water body (top of bank is shown on Map 475-2);
   3. Tree removal is allowed as specified in Subsection K.; and
   4. Mitigation is required as specified in Subsection L.

B. Standards for utility lines. The following standards apply to new utility lines and upgrades to existing utility lines, including stormwater conveyance facilities, and private connections to utility lines:
   1. The disturbance area for the installation of a utility line or upgrade to an existing utility line, including utility trenching, must be no more than 15 feet wide;
2. The disturbance area must not occur riverward of the top of bank of the Willamette River, within the river channel, or within 30 feet of the top of bank of any other stream, wetland, or other water body (top of bank is shown on Map 475-2);

3. Tree removal is allowed as specified in Subsection K;

4. The temporary disturbance area must be seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; and

5. Exemption. If a proposed utility line or upgrade to an existing utility line runs through an area that has already been approved as a permanent disturbance area, or allowed by standards of this section, it is exempt from Paragraphs B.1. and B.2.

C. Standards for stormwater outfalls. The following standards apply to the installation of stormwater outfalls:

1. The disturbance area associated with the installation or replacement of a stormwater outfall must not be more than 15 feet wide;

2. When constructed open channels or vegetated swales are proposed, the slope between the stormwater source and the water body must not exceed 15 percent at any point;

3. If an outfall riprap pad is used it must be planted with live stakes of native plant stock, one-half inch in diameter. Stakes must be installed at a density of three stakes per square yard. Detailed specifications for installing live stakes are found in the Erosion Control Manual;

4. Tree removal is allowed as specified in Subsection K.; and

5. Mitigation is required as specified in Subsection L.

D. Standards for placement of piles. The following standards apply to the placement of up to four new single piles or two new multiple-pile dolphins for each 100 feet of shoreline:

1. The placement of the piles or dolphins must be associated with a river-dependent or river-related use;

2. An equal number of piles or dolphins as are placed in the River Environmental overlay zone, plus one, must be removed from the River Environmental overlay zone within the Central Reach. The boundaries of the Central Reach are shown on Map 475-1; and

3. If the applicant does not own the property where the pile or dolphin removal will occur, the applicant must have an easement or deed restriction sufficient to allow the necessary removal.

E. Standards for trails. The following standards apply to the construction of a new major public trail and alterations to an existing major public trail:

1. The trail must be setback at least 10 feet, and disturbance associated with construction of the trail must be setback at least 5 feet, from the top of bank of the Willamette River or a stream (top of bank is shown on Map 475-2);
2. The trail and disturbance associated with construction of the trail must be setback at least 30 feet from the top of bank of a wetland or other water body;

3. The total width of the trail must be no more than 16 feet;

4. The total width of disturbance area must be no more than 24 feet;

5. Tree removal is allowed as specified in Subsection K; and

6. Temporary disturbance area located within and riverward of the river setback must be replanted to meet the relevant subarea standards of Table 475-1, and temporary disturbance located outside and landward of the river setback is replanted to meet the subarea 3 standard of Table 475-1. Trees may not be planted within a scenic (s) overlay zone.

F. **Standards for public viewing areas.** The following standards apply to the construction of a public viewing area:

1. The viewing area must be associated with a viewpoint designated in the **Central City Scenic Resources Protection Plan**;

2. The total disturbance area must be no more than 800 square feet in area;

3. The permanent disturbance area associated with the viewing area must not be more than 500 square feet in area;

4. The total disturbance area must not be located below the top-of-bank of the Willamette River (top of bank is shown on Map 475-2), stream, or any other water body, and must not be located within 30 feet of a wetland;

5. Tree removal is allowed as specified in Subsection K; and

6. Temporary disturbance area located within and riverward of the river setback must be replanted to meet the relevant subarea standards of Table 475-1, and temporary disturbance located outside and landward of the river setback is replanted to meet the subarea 3 standard of Table 475-1. Trees may not be planted within a scenic (s) overlay zone.

G. **Standards for view corridors.** The following standards apply to pruning or removing vegetation in a scenic (s) overlay zone.

1. Tree removal and pruning is allowed as specified in Subsection K; and

2. Temporary disturbance areas must be replanted with three shrubs per 100 square feet and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre.

H. **Standards for resource enhancement.** The following standards apply to resource enhancement projects:

1. There must be no excavation, fill, or construction activity below ordinary high water mark of any river, stream, wetland or other water body;
2. The riverbank may be re-graded if the slope after grading is shallower than the slope prior to grading and the slope is no greater than 20 percent (20 percent slope represents a rise to run ratio equal to 1:5);

3. Rock armoring must not be used on the surface between the top of bank and the ordinary high water mark of any water body except as required surrounding outfalls (top of bank is shown on Map 475-2);

4. No structures are proposed landward of the top of bank except trails that meet the regulations of 33.475.440.E, and structures associated with public viewing areas that meet the regulations of 33.475.440.F.;

5. All nuisance plants listed on the Portland Plant List must be removed;

6. Tree removal is allowed as specified in Subsection K.; and

7. Temporary disturbance area located within and riverward of the river setback must be replanted to meet the relevant subarea standards of Table 475-1, and temporary disturbance located outside and landward of the river setback is replanted to meet the subarea 3 standard of Table 475-1. Trees may not be planted within a scenic (s) overlay zone.

I. Standards for site investigative work. The following standards apply to site investigative work. Site investigative work includes soil tests and test pits, land surveys, and groundwater and water quality monitoring stations.

1. No more than 100 square feet of disturbance area is allowed per test pit or monitoring station;

2. Disturbance associated with site investigative work must be temporary;

3. No trees are removed; and

4. Temporary disturbance area must be planted with three shrubs per 100 square feet and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre.

J. Standards for other development in a City of Portland park. The following standards apply to development in a City of Portland park that is not subject to another set of development standards contained in this Section.

1. The total disturbance area must not be more than 2,200 square feet;

2. Disturbance area must not be located below the top-of-bank of the Willamette River (top of bank is shown on Map 475-2), streams, or other water body, or located within 30 feet of a wetland;

3. Tree removal is allowed as specified in Subsection K.; and

4. Mitigation is required as specified in Subsection L.

K. Standards for removal or pruning of vegetation. The following standards apply to the removal or pruning of vegetation:
1. All vegetation removal activities must be surrounded or protected to prevent erosion and sediment from leaving the site or negatively impacting resources on the site;

2. The removal or pruning must be conducted with handheld equipment or equipment with a wheel surface-to-ground pressure of no more than 7.5 psi;

3. Temporary disturbance area located within and riverward of the river setback must be replanted to meet the relevant subarea standards of Table 475-1, and temporary disturbance located outside and landward of the river setback is replanted to meet the subarea 3 standard of Table 475-1;

4. The vegetation that is removed or pruned is limited to the following:
   a. Vegetation listed on the *Nuisance Plant List*;
   b. Dead, dying or dangerous trees or portions of trees when they pose an immediate danger, as determined by the City Forester or certified arborist. All sections of wood more than 12 inches in diameter must be placed in the River Environmental overlay zone of the ownership within which the wood was cut unless the City Forester authorizes the removal because the wood is diseased and will threaten the health of other trees;
   c. Vegetation that exceeds the height restriction of a view corridor with special height restrictions designated in the *Central City Scenic Resources Protection Plan*;
   d. Trees that are not native trees on the *Portland Plant List*; or
   e. Madrone, Garry Oak or Pacific Yew that are less than 6 inches in diameter, or other native trees on the *Portland Plant List* less than 12 inches in diameter may be removed if the removal or pruning is in conjunction with development or an exterior alteration approved under the standards of this section as follows:
      (1) Within a rail right-of-way or within 10 feet of the rail right-of-way;
      (2) Within a utility line corridor;
      (3) Within the disturbance area for installation or replacement of stormwater outfalls;
      (4) Within a major public trail;
      (5) Within a public viewing area associated with viewpoints designated in the *Central City Scenic Resources Protection Plan*;
      (6) Within a scenic (s) overlay;
      (7) Within a resource enhancement area; or
      (8) Within the disturbance area associated with development in a City of Portland park.

5. Trees removed must be replaced as shown in Table 475-2 and must meet the following:
a. Replacement vegetation must meet all of the following:

(1) Trees must be a minimum ½-inch caliper, bareroot or live stakes, unless they are oak or madrone, which may be one gallon size. No more than ten percent of the trees may be oak or madrone. Shrubs must be a minimum of one gallon size or bareroot. All other species must be a minimum of four-inch pots or equivalent;

(2) The planting must occur within the River Overlay Zones. Trees must not be planted within a scenic (s) overlay zone. If the vegetation is not planted on the applicant’s site, then the applicant must own the property or have an easement or deed that ensures the vegetated area will not be developed; and

(3) The requirements of Section 33.248.090, Mitigation and Restoration Planting must be met; and

b. Vegetation planted to meet the landscaping requirements of 33.475.220 may be counted towards meeting the tree replacement standard.

<table>
<thead>
<tr>
<th>Size of tree to be removed (inches in diameter)</th>
<th>Option A (no. of native trees to be planted)</th>
<th>Option B (combination of native trees and shrubs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 1.5 and up to 6</td>
<td>1</td>
<td>Not applicable</td>
</tr>
<tr>
<td>More than 6 and up to 12</td>
<td>2</td>
<td>Not applicable</td>
</tr>
<tr>
<td>More than 12 and up to 20</td>
<td>3</td>
<td>1 tree and 3 shrubs</td>
</tr>
<tr>
<td>More than 20 and up to 25</td>
<td>5</td>
<td>3 trees and 6 shrubs</td>
</tr>
<tr>
<td>More than 25 and up to 30</td>
<td>7</td>
<td>5 trees and 9 shrubs</td>
</tr>
<tr>
<td>More than 30</td>
<td>10</td>
<td>7 trees and 12 shrubs</td>
</tr>
</tbody>
</table>

L. Standards for mitigation. The following standards apply to mitigation required by Subsections A., C., and J.

1. Mitigation must occur at a 1.5:1 ratio of mitigation area to project impact area. Project impact area is the total area within the River Environmental overlay zone where structures will be built, vegetation will be removed, or ground disturbance will occur as a result of the proposal. Mitigation area is not counted as part of the project impact area;

2. Mitigation must occur in the River Environmental overlay zone within the Central Reach. The boundaries of the Central Reach are shown on Map 475-1.;

3. If the mitigation area is not on the site where the project occurs, then the applicant must own the property or possess a legal instrument, such as an easement or deed restriction that is approved by the City as sufficient to ensure the right to carry out, monitor, and maintain the mitigation;

4. Nuisance plants identified on the Portland Plant List must be removed within the area to be replanted. Trees removed to meet this Paragraph must be replaced as specified in Subsection J.;
5. Plantings required for tree removal, as specified in Subsection J., can be counted towards mitigation if the planting is located within the River Environmental overlay zone or in an area that is contiguous to the River Environmental overlay zone;

6. Required planting density standards are specified in Table 475-3. Trees may be clustered. Trees must not be planted within a view corridor shown on Map 480-1. Plants must be selected from the Portland Plant List;

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One tree and one of the following two options for every 100 square feet:</td>
<td>One tree and one of the following two options for every 200 square feet:</td>
<td>One tree and one of the following two options for every 300 square feet:</td>
</tr>
<tr>
<td>Option 1: Three shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td></td>
<td>Option 1: Six shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td>Option 1: Nine shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
</tr>
<tr>
<td>Option 2: Three shrub and four other groundcover plants.</td>
<td></td>
<td>Option 2: Six shrub and eight other groundcover plants.</td>
<td>Option 2: Nine shrub and 12 other groundcover plants.</td>
</tr>
</tbody>
</table>

[1] Tree size is based on Title 11.60.020.C Canopy Size

7. For planting areas over 600 square feet, at least two different tree species and sizes, three different shrub species, and four different groundcover species must be used; and

8. Trees must be a minimum ½-inch caliper, bareroot or live stake, unless they are oak or madrone, which may be one gallon size. No more than ten percent of the trees may be oak or madrone. Shrubs must be a minimum of one gallon size or bareroot. All other species must be a minimum of four-inch pots or equivalent.

M. Standards for application of soil amendments. The following standards apply to the application of soil amendments:

1. The depth of the soil amendment must be no more than 12 inches;

2. The soil must not be applied below the ordinary high water mark of the Willamette River, streams, or other water body, or within 30 feet of a wetland;

3. The composition of the growing medium must meet one of the following:
   a. For all planting areas located outside of the flood hazard area, the growing medium must be a blend of loamy soil, sand, and compost that is 30 to 40 percent plant material compost (by volume); or
   b. For all planting areas located within the flood hazard area, the growing medium must be a blend of loamy soil, sand, small gravels and compost. A landscape architect or civil engineer must certify that the growing medium is adequate to support the establishment and growth of vegetation, and is heavier than water.
4. Placement of soil is not allowed when the ground is frozen or saturated; and
5. Temporary erosion control measures are required until permanent stabilization measures are functional. Temporary erosion control measures must be biodegradable or removed after permanent stabilization measures are functional or within 3 years, whichever is sooner.

N. Standards for placement of temporary floating structures. The following standards apply to temporary floating structures:

1. The structure and all work necessary to install and remove the structure is allowed in the Willamette River only between July 1 and October 31;
2. The structure must be located within the OS zone;
3. There are no more than 8 temporary floating structures in the Central Reach at one time;
4. The structure is free-floating or is attached to an existing dock, pier or piling. Free-floating means that the structure is anchored to the river bottom and is not accessible from the riverbank via anything other than the water;
5. The dimensions of the entire temporary structure must not be greater than 12 feet by 50 feet;
6. The structure has no walls and no roof;
7. The structure is at least 50 feet away from the riverbank. The 50 feet is measured horizontally from the ordinary low water mark. See Figure 475-4; and
8. The hours of operation are between 6 am and 10 pm.

Figure 475-4
Floating Structures

33.475.450 Corrections to Violations of River Environmental Overlay Zone Development Standards

A. Purpose. The purpose of the correction regulations is to ensure the timely restoration of natural resources and functional values that have been degraded due to a violation of the River Environmental overlay zone standards.
These regulations establish a process to determine which review requirements will be applied to remedy a violation that takes place in the River Environmental overlay zone. The type of review required depends on the circumstances of the violation. Section 33.475.450.8 details methods for correcting such violations and Title 3 of the City Code details the enforcement penalties.

B. Correction Options. Applicants must choose one of the following options to correct environmental code violations.

1. When these options may be used.
   a. If all of the following are met, the applicant may choose Option One, Option Two, or Option Three:
      (1) No more than 12 diameter inches of trees were removed;
      (2) No ground disturbance occurred riverward of the top of bank of the Willamette River (top of bank is shown on Map 475-2) or within 30 feet of the top of bank of a stream, wetland or other water body;
      (3) The correction will remove all illegal development; and
      (4) The correction will replant illegal clearing.
   b. If any of the following occurred, the applicant may not use Option One, but may choose either Option Two or Option Three:
      (1) More than 12 diameter inches of trees were removed;
      (2) A Madrone, Garry Oak, or Pacific Yew larger than 6 inches was removed; or
      (3) Disturbance occurred riverward of the top of bank of the Willamette River (top of bank is shown on Map 475-2), or within 30 feet of the top of bank of a stream, wetland or other water body.
   c. If the applicant cannot meet Options One or Two, Option Three must be used.
   d. If the violation also violates a condition of approval of a land use review, no trees have been removed, and disturbance did not occur riverward of the top of bank of the Willamette River or within 30 feet of the top of bank of a stream, wetland or other water body, the applicant may choose Option One or the process described in Section 33.730.140. The applicant may not choose Options Two or Three.
   e. If the violation also violates a condition of approval of a land use review, trees have been removed, and disturbance occurred riverward of the top of bank of the Willamette River or within 30 feet of the top of bank of a stream, wetland or other water body, the applicant must use the process described in Section 33.730.140. The applicant may not choose one of the options in this section.

2. Option One, Remove and Repair. This option results in removal of illegal development and replanting and repair of any damage. All of the requirements of this paragraph must be met. Adjustments and modifications to these requirements are prohibited.
a. All items and materials placed in the area of violation are removed and no new disturbance area is created;

b. Any soil compaction resulting from the violation is tilled or otherwise broken up to a depth of 6 inches prior to planting;

c. Violation remediation planting. The area to be planted is the area disturbed by the violation. All of the following must be met:

   1. The area disturbed by the violation activity must be replanted to meet the standards of Table 475-3;

   2. For planting areas over 600 square feet, at least two different tree species and sizes, three different shrub species, and four different groundcover species must be used. All plants must be native;

   3. A second area, equal in size to the area disturbed by the violation activity, must also be replanted to meet the standards of Table 475-3;

   4. Any Nuisance or Prohibited Plants listed on the Portland Plant List must be removed from the planting area and within 10 feet of the planting area;

   5. Trees must be a minimum ½ inch in diameter, bareroot or live stake, unless they are oak, madrone, or conifer, which may be three- to five-gallon size. No more than 10 percent of the trees may be oak or madrone. Trees must not be planted within a Scenic (s) overlay zone. Trees may be clustered. Shrubs must be a minimum of two-gallon size. All other species must be a minimum of four-inch pots;

   6. The requirements of Section 33.248.090, Mitigation and Restoration Planting, must be met; and

   7. For violations involving the removal of trees, two times the number of diameter inches removed must be planted on the site, in addition to other remediation vegetation planted. If any tree removed was a Garry Oak, Madrone, or Pacific Yew, the replacement trees must be of the same species. Planted trees must be a minimum one inch in diameter unless they are oak, Madrone, or conifer, which may be three- to five-gallon size.

3. Option Two, Retain and Mitigate. This option results in legalizing the illegal development and mitigating for any damage. All of the requirements of this subsection must be met. Adjustments and modifications to these standards are prohibited.

   a. The applicable standards of paragraphs 33.475.440 must be met;

   b. Violation remediation planting. The area to be planted is the area disturbed by the violation. Where development is approved for the area disturbed by the violation, an area of the same size elsewhere on the site must be planted. All of the following must be met:
(1) The area disturbed by the violation activity must be replanted to meet the standards of Table 475-3;

(2) For planting areas over 600 square feet, at least two different tree species and sizes, three different shrub species, and four different groundcover species are used. Plants must be native and selected from the Portland Plant List.

(3) A second area, equal in size to the area disturbed by the violation activity, must also be replanted to meet the standards of Table 475-3;

(4) Any Nuisance or Prohibited Plants listed on the Portland Plant List must be removed from the planting area and within 10 feet of the planting area;

(5) Trees must be a minimum ½ inch in diameter, bareroot or live stake, unless they are oak, madrone, or conifer, which may be three- to five-gallon size. No more than 10 percent of the trees may be oak or madrone. Trees must not be planted within a scenic (s) overlay zone. Trees may be clustered. Shrubs must be a minimum of two-gallon size. All other species must be a minimum of four-inch pots; and

(6) The requirements of Section 33.248.090, Mitigation and Restoration Planting, must be met; and

c. For violations involving the removal of trees, two times the number of diameter inches removed must be planted on the site, in addition to other remediation vegetation planted. If any tree removed was a Garry Oak, Madrone, or Pacific Yew, the replacement trees must be of the same species. Planted trees must be a minimum one inch in diameter unless they are oak, Madrone, or conifer, which may be three- to five-gallon size.

4. Option Three, River Review. This option requires River Review, using the approval criteria and procedures below:

a. Approval criteria. The applicable approval criteria of Subsection 33.865.120 must be met.

b. Review procedures. Reviews are processed as follows:

(1) Type III. A Type III review is required for any development, exterior alteration, or exterior improvement within a wetland, stream channel, drainageway, or water body.

(2) Type II. All other reviews to correct violations are processed through a Type II procedure.

(3) All River Reviews must provide the information required in Section 33.865.040, Supplemental Application Requirements.
Clean Up of Contaminated Sites

33.475.500 Removal or Remediation of Hazardous Substances

A. General. The following regulations are substantive requirements that apply to actions taken to remove or remediate hazardous substances. All of the regulations must be met unless one or more are demonstrated to be impracticable pursuant to subsection G, below.

B. Where these regulations apply. The regulations of this section apply to the portion of the site located within the boundaries of the removal or remediation action.

C. Review procedure.

1. Except as described in paragraph C.2, compliance with these regulations is processed through a Type II procedure.

2. If the action to remove or remediate hazardous substances is subject to this Code but exempt from procedural requirements, the action must comply with the substantive requirements of these regulations to the extent required under state or federal law and the person performing the action must notify the City that the action is exempt. A person conducting a cleanup otherwise exempted from the procedural requirements may choose to obtain a permit.

D. Relationship to other regulations in this chapter. Actions to remove or remediate hazardous substances that are approved or selected under Oregon or federal cleanup law are exempt from the procedural requirements of Chapter 33.475. Any part of an action that is not in itself a remedial or removal action must meet all other applicable regulations and procedural requirements of this chapter.

E. Regulations that apply to actions to remove or remediate hazardous substances. The following regulations apply to proposals for the removal or remediation of hazardous substances:

1. The removal or remedial actions and the final remedy must not preclude the use of the site consistent with the uses allowed by the base zone or an approved conditional use. If the site is within the River Industrial overlay zone or riverward of the river setback, the final remedy must allow the use of the site for river-dependent or river-related activities unless the site is found to be unsuitable for river-dependent or river-related uses. Generally, this means that the final remedy must allow development of major public trails, dredging necessary to establish or maintain navigation to and from riverfront sites, the placement of piles or dolphins, or the development of a marine facility, dock, or wharf or other river-dependent or river-related structure;

2. Buildings, structures and equipment required as part of removal or remediation actions must be located and designed taking into account the purpose of the river setback standard which is to keep structures at least 50 feet away from the top of bank of the river, reserve space for public access to the river and development of major public trails, and allow for natural resource enhancement (top of bank is shown on Map 475-2); and
3. Water quality treatment facilities must be located outside of the River Environmental overlay zone.

F. Regulations that apply to actions to remove or remediate hazardous substances that occur in specific areas. The following regulations apply to actions within the River Environmental overlay zone to remove or remediate hazardous substances based on specific locations:

1. The following regulations apply to areas landward of the top of bank (top of bank is shown on Map 475-2):

   a. Disturbance of the ground and removal of native vegetation must be avoided outside of the actual soil removal areas. If avoiding disturbance or native vegetation removal is not practicable, disturbance and removal must be minimized.

   b. Where ground disturbance or removal of native vegetation cannot be avoided, the area must be replanted. The replanting standards are as follows:

      (1) Nuisance and prohibited plants identified on the Portland Plant List must be removed within the area to be replanted and within 10 feet of any plantings;

      (2) Planting density. The replanting area must meet one of the following plant and planting density standards specified in Table 475-4. Trees may be clustered. Trees must not be planted within a view corridor designated in the Scenic Resources Protection Plan, shown on Map 480-1.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One tree and one of the following two options for every 100 square feet:</td>
<td>One tree and one of the following two options for every 200 square feet:</td>
<td>One tree and one of the following two options for every 300 square feet:</td>
</tr>
<tr>
<td></td>
<td>Option 1: Three shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td>Option 1: Six shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
<td>Option 1: Nine shrubs and seeded with a grass and forb seed mix at a ratio of 30 pounds per acre; or</td>
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</tr>
</tbody>
</table>

[1] Tree size is based on Title 11.60.020.C Canopy Size

3. Plant diversity. For planting areas over 600 square feet, at least two different tree species and sizes, three different shrub species, and four different groundcover species are used;

4. Plant size. Trees must be a minimum ½-inch caliper or bareroot unless they are oak or madrone, which may be one gallon size. No more than ten
percent of the trees may be oak or madrone. Shrubs must be a minimum of one gallon size or bareroot. All other species must be a minimum of four-inch pots or equivalent; and

(5) The requirements of Section 33.248.090, Mitigation and Restoration Planting must be met.

c. Tree replacement. Trees that are 1.5 inches or greater in diameter that are removed must be replaced based on Table 475-5:

<table>
<thead>
<tr>
<th>Size of tree to be removed (inches in diameter)</th>
<th>Option A (no. of native trees to be planted)</th>
<th>Option B (combination of native trees and shrubs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 1.5 and up to 12</td>
<td>2</td>
<td>Not applicable</td>
</tr>
<tr>
<td>More than 12 and up to 20</td>
<td>3</td>
<td>1 tree and 3 shrubs</td>
</tr>
<tr>
<td>More than 20 and up to 25</td>
<td>5</td>
<td>3 trees and 6 shrubs</td>
</tr>
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<td>7</td>
<td>5 trees and 9 shrubs</td>
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<tr>
<td>More than 30</td>
<td>10</td>
<td>7 trees and 12 shrubs</td>
</tr>
</tbody>
</table>

(1) Size. The replacement trees must be a minimum ½-inch diameter or bareroot unless they are oak or madrone, which may be one gallon size. Shrubs must be a minimum of one gallon size or bareroot. All other species must be a minimum of four-inch pots or equivalent.

(2) Type. The replacement trees must be native trees selected from the Portland Plant List;

(3) Location. All replacement trees must be planted within the River Environmental overlay zone, within 50 feet of the River Environmental overlay zone, or within 50 feet of the top of bank of the Willamette River in the Central Reach (top of bank is shown on Map 475-2). The person conducting the cleanup must own the property where the trees are planted or have an easement or deed restriction sufficient to ensure the success of the tree planting; and

(4) Replacement trees can be counted toward meeting the requirements of subsubparagraph G.1.b(2).

d. All vehicle areas and construction staging areas installed for purposes of conducting the removal and remediation actions must be removed from the River Environmental overlay zone when they are no longer necessary for remedy construction. All such areas must be removed by the time the project is complete and the areas must be replanted according to the standards of subparagraph G.1.b, above.

2. The following regulations apply to the area between the top of bank and the ordinary high water mark:
a. When there is an alteration to the area between top of bank and the ordinary high water mark that is greater than 500 square feet or includes more than 50 cubic yards or excavation or fill, changes the ground contours, results in the removal of buildings, requires engineering of the river bank or includes in-water work, the following should be met (top of bank is shown on Map 475-2):

(1) The area between the top of bank and the ordinary high water mark where the alteration occurs must be designed using biotechnical techniques including soil bioengineering (top of bank is shown on Map 475-2). Figures 475-5 and 475-6 show examples of biotechnical techniques. In addition to using biotechnical techniques, the following requirements apply:

- Rock armoring or other hard surface armoring methods must not be used between the top of bank and the Ordinary High Water Mark except as needed surrounding outfalls. This is not intended to preclude using rock or other hard surface stabilization methods below the surface if necessary to contain hazardous substances or to preclude the use of rocks or gravel as part of the biotechnical technique;
- The bank must be sloped or terraced in a way that allows the establishment and maintenance of vegetation as the primary soil stabilization method;
- If the site is currently used for public recreation, including access to a beach or the river, the bank must be sloped or terraced in a way that allows for at least one public access way to the beach or river;
- Large wood, including root wads, tree boles and logs, must be used to reduce localized erosion, improve bank stabilization, and improve ecological values and, if the site is currently used for public recreation, support continued use of beaches and the river; and
- At least eighty percent of the area between the top of bank and the ordinary high water mark that is being altered as a result of the remedy must be planted with shrubs. At least one tree must be planted for every 400 square feet of altered area. All of the area that is not planted with shrubs or trees must be fully covered with ground cover plants. All plants must be selected from the Portland Plant List and should be appropriate for the conditions on the site. The requirements of Section 33.248.090, Mitigation and Restoration Planting must be met.

(2) If biotechnical techniques are not practicable, as described in 33.475.500.G, and rock armoring is used on the surface between the top of bank and the Ordinary High Water Mark, then the slope of the bank must be shallow enough to allow a combination of rock and vegetation (top of bank is shown on Map 475-2). At a minimum, live native willow or dogwood stakes should be planted in adequate soil, in the interstices between the rocks at a ratio of three stakes for every square yard of rock armoring.

b. When there is a minor alteration of less than 500 square feet or less than 50 cubic yards of excavation or fill to the area between the top of bank and the ordinary high water mark, the regulations of paragraph G.1, above apply (top of bank is shown on Map 475-2).
3. In the area that is riverward of the Ordinary High Water Mark, the following apply:

a. Avoid in-water permanent structures that will impact the navigation channel or will preclude river-dependent or river-related development from accessing and utilizing the river for public recreation, transportation, tourism, or the transport, transfer and conveyance of goods and materials to and from the upland site;

b. Integrate large wood, or other natural wave deflection structures or techniques that mimic the function of large wood, into the near-shore environment. Rock armoring, chemically treated wood, articulated block, and industrial debris is discouraged;

c. If the area is a beach or is a shallow water depositional area, then the final design should include all of the following:
   
   (1) At least six inches depth of substrate that is ½-inch rounded gravel or smaller in size should be placed over capping material;

   (2) The submerged slope should be no steeper than 1:7 (rise to run ratio); and

   (3) Public access from major public trails or abutting upland sites to the river should not be precluded.

d. If the area is not a beach or is not a shallow water depositional area, then the final substrate should be rounded rock no larger than 6 inches (D100=6”) with an average gradation size of 3 inches (D50=3”). Angular rock is discouraged.

G. **Demonstration of Impracticability.** A person conducting a cleanup may be exempted from compliance with any requirement in this section if the person demonstrates that compliance with the requirement is not capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project remedial purposes. The person must still comply with that requirement to the extent practicable and remains subject to all other applicable requirements. To demonstrate impracticability the applicant must submit an engineering analysis, a cost schedule and any other information, such as desired future use of the site, that supports a demonstration that a requirement cannot be fully met.
Figure 475-5
Example 1: Upland and In-Water Contamination Cleanup

Contamination containment remedy (if required by DEQ/EPA)

Engineered retaining structures

Large woody debris

Habitat elements sized per flow

Ordinary high water

Remove contaminated soil and replace with clean fill

Figure 475-6
Example 2: In-Water Contamination Cleanup

Environmental enhancement

Original river bank

Engineered cap

Contaminated soil

Ordinary high water

Clean fill

Ordinary low water

(Added by: Ord. No. 189000, effective 7/9/18.)